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ABSTRACT

Results are reported of research to test whether a simulation game can be used to identify and to influence the leadership styles practiced by elementary school principals. The design assesses whether principals can become more skillful decisionmakers through heightened awareness of their leadership styles. The research and educational implications of the study contribute to "middle range" theorizing. Application lies between general managerial and systems theory, and the day-to-day decisionmaking of the elementary school principal. "The Principal Game" simulation, and the research surrounding it, represent an attempt to bridge the gap between theory and practice. (Author)

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The Use of a Simulation Game to Assess and Influence the Leadership Styles of Elementary Principals: The Principal Game

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INTRODUCTION

Games serve a variety of purposes in American society. For some, parlor games and spectator sports provide a form of relaxation. Increasingly, however, serious games are being developed as a learning device. Serious games, as a type of curriculum development, require rigorous forms of evaluation, and the creation of diverse evaluation strategies to meet that need. The purpose of this study, then, is to describe the formative evaluation strategy employed in the appraisal of the Principal Game.[1]

To accomplish this, three tasks are undertaken. First, an overview of the game's conceptual framework is provided. Second, formative evaluation is defined, and the evaluation strategy which evolved from the game's conceptual framework and the definition employed is described. Finally, information derived from the application of the strategy is presented along with tentative conclusions related to revisions in the game.

Conceptual Framework

The elementary principal occupies a pivotal position in the school's organizational structure. Descriptive and normative writings on the principalship indicate that elementary principals generally are unaware of their pivotal role in the school's decision-making process and the overall pattern of the decisions they make. Two factors may account for these phenomena: (1) an effective leadership style which has not evolved to a level of

consciousness for systematic implementation; and (2) a strategy of decisions which is largely undifferentiated.

The Principal Game was designed to meet three objectives related to the concept of leadership style and the role of decision-making in defining that style. The objectives sought:

(1) To increase the principal's awareness of the nature of political decision-making.

(2) To increase the principal's awareness of his/her personal leadership style as manifested by decision priorities.

(3) To improve the principal's decision-making skills through the use of such pre and in-service materials as alternative decision simulations.

Principals make numerous decisions during a given day. The most significant of these decisions are the political decisions for they serve to define the principal's leadership style.

Because the term "political" is value-laden and yields a multiplicity of definitions, the following definition of political decisions was employed during the game's creation:

(1) Decisions about the management of a social unit which are designed to be collectively binding on the members of the unit.

(2) Decisions made by members of a social unit about or in relation to collectively binding decisions regarding the management of the unit.[2]

For example, the bureaucratic structure of the school represents a social unit. When a principal decides to keep the students inside during inclement weather, it is a political

decision. Likewise, when a teacher decides to send her students outside anyway, a political decision has been made. If a committee of teachers decides to adopt a K-6 social studies curriculum sequence, it has made a political decision. However, if the third grade teachers refuse to incorporate these materials into their class, they are making a political decision. In the final analysis, the principal is held accountable for these decisions, and the manner in which they are handled indicates leadership style. The inter-relationship may be seen in the following illustration.[3]

TYPES OF POLITICAL DECISIONS

	Individuals		
Collectively binding decisions related to the management of the social unit	principal keeps students inside during recess	Teacher sends students outside anyway	Decisions about or in relation to collectively binding decisions
	Committee adopts K-6 social studies curriculum	Third grade teachers refuse to incorporate the materials	
	Non-Individuals (the social unit, groups, collectivities)		

The Principal Game, incorporates three areas which present the principal with occasions for political decisions: curriculum, organization, and interpersonal relations. Groups involved in these decisions included students, staff, parents, and central office administrators. The alternatives reflected four essential types of political decisions: The creation and/or implementation of school or personal policy to achieve institutional goals, the allocation of resources, and the settling of conflicts. Additionally, the way in which the political decision was made (authority, consensus, majority rule) was implied in the alternatives.

Overlap among areas existed in most incidents since "pure" examples are relatively rare in the principal's working environment.

For example, an incident involving a teacher's reluctance to make home visits includes interactions among interpersonal relations, teachers and parents, personal policy, and conflicts over personal safety.

In another case, a central office directive moving an effective teacher to a neighboring school involves both the organization of the school and the interpersonal relations with the teacher. The principal's decision must attend to the delicate balance between his/her position relative to the central office and also with respect to the teacher. Finally, the principal must justify the decision relative to the implementation of school district policy, the goals of the teaching staff, and the allocation of scarce resources (in this case, a talented teacher).

Political decisions are the result of interrelated activities of key actors. Some exert influence, directly or indirectly. Others are affected by the decision also directly or indirectly. In the Principal Game, these key actors include parents, staff, students, the school board, and the community in general.

Richard Snyder[4] underscores the effects of these interactions in summarizing the process of search, appraisal, and choice in political decision-making. He describes the intellectual operations inherent in decision-making as rarely residing within a single individual. Rather, they are distributed "among various individuals, groups, or agencies." Within their specialized roles, these actors may be "deciders, formulators of plans, policies, and action strategies, or influencers."

Mediating variables may affect the outcomes of political decisions, however. Relationships between and interactions among individuals as well as misunderstandings and impaired communications represent a sample of such variables. In addition, the social process characteristic of complex organizations, i.e. "bureaucratization of responses, conflict, accomodation, and motivations unrelated to the tasks or goals of the organization"[5] serves to further complicate the decision process.

In the game, principals encounter three occasions for decisions. Curricular decisions involve the determination of what will be taught and, to an extent, what teachers will do (or not do) in the classroom. Inter-personal decisions most often involve the morale of key actors within the school. Patterns of communication are critical to interpersonal decisions. Organization decisions involve the maintenance of the school plant as well as the structure of the educational process.

Closely linked to the occasions for decisions are the types of decisions encountered in the incidents. Policy decisions require the creation or interpretation of school policies and personal policies and/or rules. Goal decisions concern the creation and attainment of objectives by indivdiuals and the organization. To a degree, they are determined by the general purposes and aims of key actors within the occasions for decisions. The allocation of resources requires the principal to make decisions about who gets what (i.e. how supply will meet demand).

Conflict decisions often occur over the allocation of resources or because of communication problems associated with interpersonal relations.

Political decisions may be made in three different ways: authority, consensus, and majority rule. Situational variables often determine the most effective method. That is, a decision made by the principal alone (authority) working with the advice of others may be the only way to operate in some situations. Similarly, consensus (general agreement among everyone involved) may work in situations where the needs and wants of the individuals are intertwined with the decision. Neither indicates a particular predilection toward task (authority) nor people (consensus). Neither does the use of majority rule indicate a special adherence to the value of the democratic process. In short, the effective leader uses these ways equally well depending upon the situation.

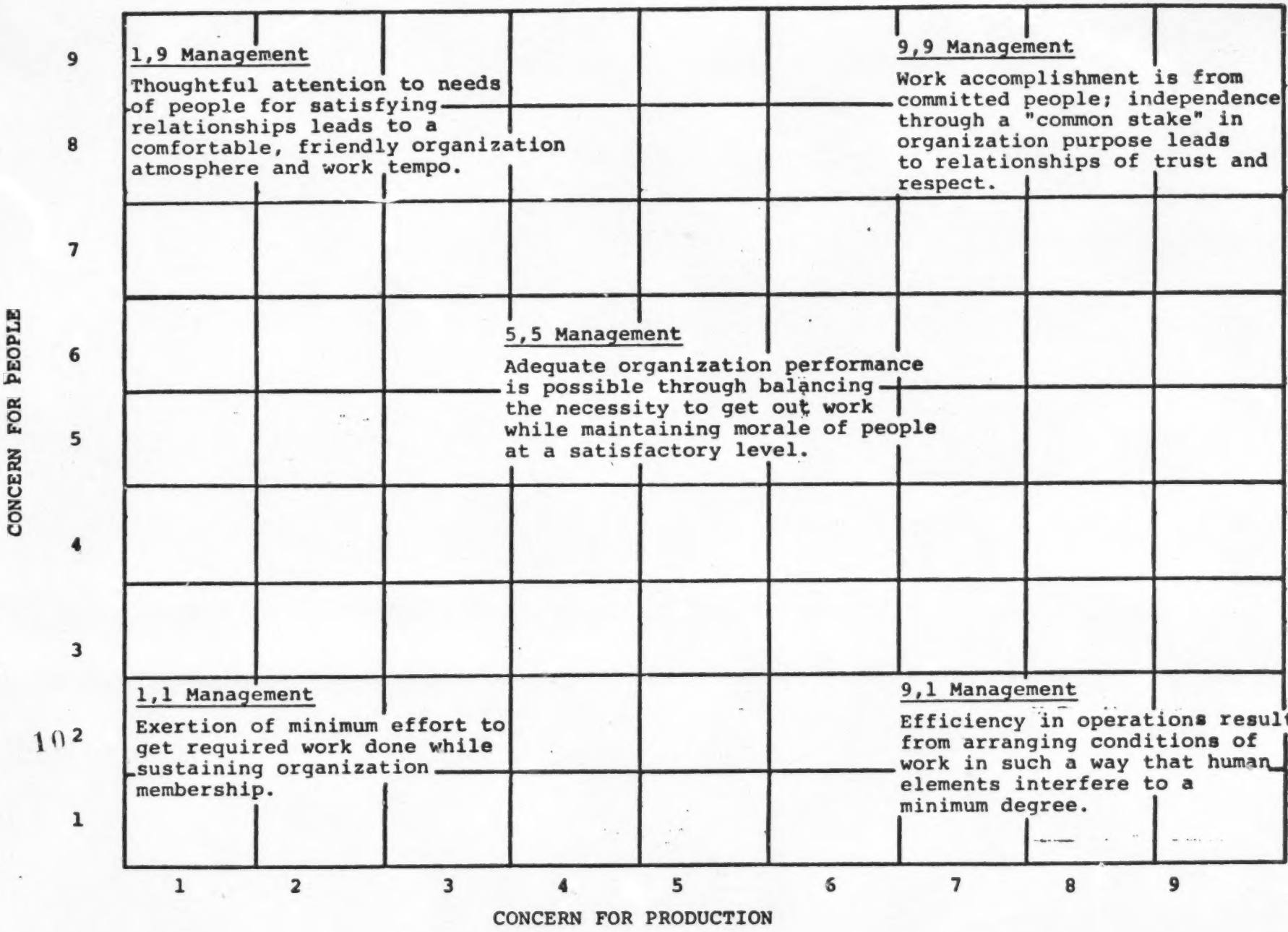
Leadership Style

Contempory writings on administrative and supervisory behavior stress two essential dimensions: The maintenance of the organizational system and the welfare of the individuals involved. Sergiovanni and Starratt provide an excellent overview of these dimensions in their explication of McGregor's Theory X and Theory Y management, Halpin's consideration vs. initiating structure, and Getzel's and Guba's nomothetic vs. ideographic dimensions.[6]

While each of these theoretical constructs represents an efficacious approach to leadership behavior, for purposes of alternative decision simulation design, Blake and Mouton's managerial grid is the most descriptive.[7] As in the above models, concern for people and concern for task are central to the grid. Mathematically, however, it is possible to represent and describe eighty-one leadership styles. This may be seen in Figure 1.[8]

FIGURE 2

MANAGERIAL GRID


9
8
7
6
5
4
3
2
1
CONCERN FOR PEOPLE
1,9 Management
Thoughtful attention to needs of people for satisfying relationships leads to a comfortable, friendly organization atmosphere and work tempo.
9,9 Management
Work accomplishment is from committed people; independence through a "common stake" in organization purpose leads to relationships of trust and respect.
5,5 Management
Adequate organization performance is possible through balancing the necessity to get out work while maintaining morale of people at a satisfactory level.
1,1 Management
Exertion of minimum effort to get required work done while sustaining organization membership.
9,1 Management
Efficiency in operations results from arranging conditions of work in such a way that human elements interfere to a minimum degree.
1
2
3
4
5
6
7
8
9
CONCERN FOR PRODUCTION

The Principal Game implements the managerial grid substantively as a learning device and structurally as an organizing device. Thus, the individual incidents and the alternatives presented are interpretive reflections of Blake and Mouton's general descriptions of leadership styles. The interpretations evident in the game are those of the game designers and not of Blake and Mouton.

As illustrated on the grid, the game concentrates on five "pure" leadership styles -- (1,1), (5,5), 1,9), (9,1), and (9,9). Blake and Mouton describe the (1,1) manager as one who engages in carrying out orders, making the rounds as unobtrusively as possible, avoiding conflict or confrontation, and occasionally, scapegoating.[9] For example, a (1,1) principal, overhearing a faculty room discussion on students' lack of respect for authority, would leave the room to avoid having to take a position in a discussion.

The "middle of the road" manager (5,5) is characterized by Blake and Mouton as an "organization man". Although preferable to the (1,1), (9,1) and (1,9) managers, the (5,5) manager is flawed. Enough push is exerted to get the job done and avoid low morale conditions, but the task and the means for completing it are generally defined by the manager. Likewise, subordinates tend to be manipulated or consulted in a perfunctory manner.[10] The decision is ultimately made by the manager.

A (5,5) principal, when faced with a similar "lack of respect" discussion, would seek a compromise. While generally agreeing

that something needed to be done, the (5,5) principal would also suggest that teachers should try to understand the students' position. As a result, teachers receive the message that respect is important, but so are students' feelings. The decision appears satisfactory, at least superficially. Upon closer analysis, however, its concilliatory nature emerges. On the positive side, the (5,5) principal has indicated some flexibility, a willingness to make a decision which takes several variables into account, and a desire to avoid unnecessary, disruptive conflict.

High concern for production and emphasis upon getting the job done are characteristic of the (9,1) task manager. This style resembles McGregor's Theory X supervisor. Because of the low concern for the welfare of the people affected by decisions, production under task management may actually diminish. [11]

As might be expected, the (9,1) manager quickly develops the reputation for tough-mindedness, a hard-line approach to occasions for decisions, and an unwavering predisposition toward institutional goals. [12] Accountability, in terms of input-output, is a recurrent theme in intra-organizational communications.

The (9,1) principal, on the issue of student respect, would insist that teachers make it a high priority item in their classes. With less time spent on becoming "friends" with students, more time can be spent on demanding respect. Hence, students are "kept in line" and production increases. Human relations are

not central to effective learning environments.

At the opposite extreme, the (1,9) "country club" manager seeks togetherness, strong interpersonal relations, and good feelings among subordinates. Unfortunately, production and task accomplishment are generally sacrificed to maintain positive relationships.[13]

Thus, institutional goals and policies become secondary to maintaining morale through positive human relations.

In general, the (1,9) manager will employ a non-critical, warm approach in encouraging subordinates to accomplish tasks. Institutional goals are essential only as they promote a high level of satisfaction and security among members of the organization.[14] Decisions made must be acceptable to everyone involved, usually through consensus, with emphasis upon maintaining allies at all levels of the organization.

The (1,9) principal, confronted with the discussion on student respect, would tactfully remind the teachers of the importance of classroom rapport and relaxed learning environments. Respect is gained through the formation of close relationships with the students. Rather than pushing students, lead them by example. Respect emerges as students perceive that the teachers expect it. Most non-supporters would describe the (1,9) approach as "permissive."

The final "pure" managerial type identified by Mouton and Blake is the (9,9) "team manager".[15] Central to this approach

is the recognition of the interdependent nature of the institution and all its members. Policy, goal, resource and conflict decisions reflect a shared concern for tasks to be accomplished and people affected by the decisions. Power is diffused somewhat, but the (9,9) manager is uniformly recognized as a strong leader.

This is accomplished primarily through skillful use and maintenance of systems of influence. Members of the organizational system realize that their suggestions may not only be sought, but implemented. Likewise, they realize the assumption of responsibility for implementation will usually rest with them. People are expected to complete tasks, but they are also expected to employ their creativity.[16] Conflict is neither avoided nor sought, but used as a method of promoting individual and institutional growth.

The (9,9) principal engaged in the discussion on student respect recognizes the importance of authority in the classroom. However, the nature of authority is not based upon coercive, reward, or legitimate uses of power. Nor is it based solely upon student's recognition of the teacher as expert. Rather it most often operates from a referent base.[17] That is, admiration and respect emerge as a function of performance and strong inter-personal relations. As such, it mirrors the (9,9) principal's leadership behavior.

Formative Evaluation of the Principal Game

The Principal Game incorporates elements indigenous to the concept of political decision-making and interrelates them with a theoretical device used to describe leadership style. Together, they comprise the content of the game. Its form is derived from a game model labelled as an alternative decision simulation.[18]

Before decisions could be made concerning major revisions in the game's content or form, a systematic formative evaluation needed to be undertaken. At the time of its publication in the National Elementary Principal magazine, the game had gone through the first stage of formative evaluation, i.e. critical appraisal. It had been reviewed by professors of education and a group of principals in central Ohio to establish the face validity of the incidents. For purposes of the magazine format, this was considered sufficient.

However, if the game were to be placed on the market, important questions needed to be answered. For example, did the occasions for decisions reflect situations actually encountered by principals in varying locales? Did the alternatives given cover the range of choices normally considered by the principal? Were they plausible? Were the types of decisions included in the game proportionate to the number usually encountered by the principal?

Questions of form also needed to be answered. Were the methods of scoring and the utilization of chance elements detracting from the game? Was the concept of leadership style employed in the game acceptable to most principals? Was the Blake-Mouton

managerial grid, as interpreted for the game, useful as an indicator of principals' leadership styles as perceived by themselves and others? Hence, the necessity for a systematic formative evaluation.

For purposes of this study, formative evaluation follows the definition commonly used by Scriven, Popham, Grobman and others. That is, formative evaluation appraises the strengths and weaknesses of the product (or process) internally, feeding back information to the developers vis à vis indicated modifications or revisions. It does not judge the worth of the product relative to other products of a similar genre.

Scriven observes two groups of activities operating during formative evaluation -- intrinsic and payoff strategies.[19] Intrinsic strategies judge the intellectual integrity of the content while payoff strategies judge interim effects of the product for feedback to the developers. In short, as Donald Cunningham notes, formative evaluation is interim and internal while summative evaluation is terminal and external.[20]

The formative evaluation strategy designed for the Principal Game consists of four stages. As noted above, the first stage consists of critical appraisal or review by qualified experts. The second stage involves the pilot-testing of the game in its magazine format using samples representing a cross-section of principals (e.g. rural, suburban and city). The description of this stage comprises the majority of this paper.

The third stage requires a larger, more fully defined sample as generally used in field-testing. At this stage, summative evaluation occurs as the game is compared with other materials designed to heighten principals' awareness of leadership style. The fourth stage utilizes longitudinal studies and other experimental designs for the purpose of determining long range effects of the game. This stage involves validation evaluation and provides the severest test of the game as a learning device.

Application of Stage Two

Stage two, the pilot testing of the Principal Game, proceeded in the following manner. First, a small sample of elementary principals was identified. This group included, principals from Walla Walla, Washington and Austin, Texas. The total sample of principals was 11. In addition, 22 graduate students in a simulation and gaming research and development class were asked to participate in the evaluation of the game.

One sub-sample group (7 full-time principals and 1 intern) was asked to keep a "Decision Notebook" for one week prior to the playing of the game. The group was briefed and told to record only decisions which they considered both significant and indicative of their style of decision-making. They were told to record occasions for decisions (organizational, curricular and inter-personal); indicate type of decisions (policy, goal, resource allocation and conflict); describe key actors (parents, staff, students and central office); and label the way the decision was made (authority, consensus, and majority rule) within

the framework illustrated below:

Description of occasion for decision	Action taken	Way Decision was made

The terms were defined as presented earlier in the study.

At the end of the week, the eight principals met to turn in their notebooks and play the game. They were then given a new set of notebooks for the second week. The game was played essentially as published in the National Elementary Principal. The most significant change was the removal of the incidents from the magazine so they could be placed on individual cards. As in the magazine, the decision choices were read to the principals. The large group of eight was divided into two groups of four for purposes of manageability. The two groups then played the game and were debriefed separately using the same set of debriefing questions (Appendix A).

Following the completion of the second Decision Notebook, the data were analyzed in several ways. The notebooks were reviewed and the number of occasions for decisions, types of decisions and key actors were recorded for each incident. A similar anaylsis was performed on the incidents within the game (Appendix B). The tapes recorded during the game plays

and debriefings were reviewed and significant comments and suggestions noted. Finally, the Decision Notebooks were "scored" according to criteria used in the scoring of alternative decisions during the game's creation. These scores were then compared with scores received from the Principal Game (Appendix C).

In addition, the scores from the second week's Decision Notebooks were compared to the first week's to determine if the game play had any impact on subsequent decisions. These results were, by their very nature, tentative.

The second sub-sample consisted of two groups. The first was composed of 22 graduate students in an education graduate class who were actively engaged either in research about simulation/gaming or were in the process of actively creating their own simulations/games. There were no elementary principals in this group. However, the members could relate to the principal as a decision maker through hypothesis and empathy. They were relatively sophisticated game players and developers and could provide good feedback on the form and play of the game.

The Principal Game materials had been used in a variety of forms over the past year in educational administration classes and with other small groups. These plays of the game had led to the creation of several doubts, questions, and possibilities about the game format that would hopefully be resolved to some degree by carefully structured play and systematic content analysis of the tape recorded debriefing session.

The graduate students turned out to be willing and sometimes enthusiastic participants in the play of the Principal Game. One elementary school teacher suggested that it might be played with elementary school teachers as a device to develop empathy for the problems faced by elementary school principals. Specific debriefing questions were developed for this session and the tape recorded debriefing was analyzed with an eye toward revisions in game play that might be included in the format of the game to be used with the elementary principals who compose the other part of this sub-sample. Specific suggestions implemented before using the game materials with principals in the sub-sample are contained in Appendix D.

The game materials as revised through structured play and systematic content analysis were used with two elementary principals and their interns, making a sample size of four. The research design for this sample consisted of content analysis[21] of tape recorded debriefing sessions and of participants' written comments in the game.

Two game sessions were held, one for each principal and intern. The Principal Game was played, incorporating the changes noted in Appendix D. An open-ended debriefing session was tape recorded for later analysis, with the game director unobtrusively jotting notes as an aid to memory. Some of the debriefing questions noted in Appendix A were used occasionally to insure that all areas of interest to the game developers were covered.

In particular, the game director focused on the question of whether the play of the game was valid for the participants. Did the players find that the situation accurately reflected the day-to-day decisions that a working principal faces? This focus in questioning assumes that the fundamental determinant of validity in the development of materials of this type is the determination by the participants that the play of the game is valid for them.

When the oral debriefing was completed, indicated by the fact that the participants were "talked out", they were given a sheet of paper headed by the following question:

> Imagine that another elementary administrator said to you, "I've heard that you've played the Principal Game. We're considering using it for an in-service program. Could you tell me what it was like for you?" How would you respond?

The responses were analyzed using an adaptation of the procedure described by Silberman and Allender.[22] The content analysis of the solicited descriptions yielded scores on two dimensions. One score is called "evaluative tone." It signifies whether the comments about the play of the game were predominently positive or negative in value and the intensity of the evaluative remarks made about the Principal Game. The second score, "impact", represents the extent to which a participant indicates in the description that the game has contributed to personal change.[24]

Evaluative tone is based on the sum of the positive and negative evaluative statements receiving a value of +1 and negative statements -1. This scoring procedure calls for a judge to identify statements that express (1) approval or disapproval of the game or any aspect of it (e.g. "Participating in the game is a valuable and worthwhile experience.") (2) a judgement of the worth of the game or any aspect of it (e.g. "The experience made me realize my tendencies in making certain types of decisions.") (3) a pleasure or difficulty experienced in the game. (e.g. "The situations are artificial in that they do not incorporate all of the complexity that is present in situations I encounter in the school setting.")

Impact is scored by reading the entire description and rating it on a four point scale, according to the following criteria: 1=no impact; 2=inferred impact; 3=limited impact; and 4=sustained impact. No impact is indicated when the focus of the description is entirely on what happened in the play of the game. The participant makes no reference to how the game has affected him. Inferred impact is indicated when the participant mentions some personal experiences in the game, but does not directly express how they affected him. Limited impact is indicated when the description contains intermittent comments that the game experience contributed to either attitudinal changes, emotional growth, development of learning skills, or acquisition of knowledge. Sustained impact is indicated when most of the description is

focused on the participant's self-development as a result of the experience.[23]

Three of the four participants were scored to have experienced limited impact (a score of 3 on the "impact" scale) in their play of the Principal Game and recorded only positive remarks on the "Evaluative tone" scoring. The fourth participant was scored to have experienced inferred impact (a score of 2 on the "impact" scale and expressed a mixture of positive and negative remarks to net score of 0. Scores for each are listed in Appendix E.

In their oral comments, all four participants firmly stated that the situations presented were clearly representative of the situations they do and have faced or conceivably could face in their particular elementary school settings. Both full time principals indicated that their final position on the grid-board quite accurately reflected their view of themselves as decision-makers. All participants expressed some frustration because the alternatives presented did not provide the kinds of complex factual data they would ordinarily have in their day to day decisions. However, all accepted the necessity to limit the complexity of the choices for the purposes of simulation and to focus on leadership style as a function of decision-making.

Conclusions

The formative evaluation of the Principal Game described in this paper warrants the following conclusions.

1. A single workable and interesting form of the play of the

Principal Game has been identified. However, the materials remain flexible for both small and large group play, and for a variety of purposes. In addition there is potential for the materials to serve as a frame game for the other leadership training applications, such as for teachers or the military.

2. The game was generally described as validly representing the problem situations a working principal might face. Alternative decisions presented were also generally considered valid by players. Specific exceptions mentioned by game players have been noted and are being reviewed by the game developers. This is one way that the participants have contributed to validating the game model of the leadership dimension of the elementary principalship.
3. Both research approaches generated data that indicated that the Principal Game is a useful introduction to the concept of leadership style. While play of the game would be unlikely to alter leadership styles dramatically, there is evidence that the materials are useful for stimulating self-awareness and self-analysis of participants' decision-making processes.
4. Principals generally stated that the leadership styles that emerged for them as a result of playing the game were accurate assessments of their leadership style as perceived by them. They stated that the Blake-Mouton task-people conceptual scheme was a valid way to assess their decision-making.

5. Given that a careful revision of the game materials would take into account revisions suggested by game participants, particularly in the area of the proportion between the types of decisions faced by principals, the Principal Game is ready for summative evaluation.

Notes

1. Ralph Gohring and Leigh Chiarelott, "The Principal Game", National Elementary Principal, November-December, 1975, pp. 41-56.

2. Richard Remy, "A Framework for the Development of Instructional Pockets," (Ohio Elementary School Political Education Project Working Paper, May 21, 1974: Mershon Center, Columbus, Ohio) P. 1.

3. Ibid., p. 5.

4. Richard Snyder, "Decision-Making and Problem Solving: Basic Aims, Questions, and Vocabulary," (Memorandum: Mershon Center: Columbus, Ohio, 1974), p. 12.

5. Ibid.

6. Thomas J. Sergiovanni and Robert J. Starratt, Emerging Patterns of Supervision: Human Perspectives, (McGraw Hill: New York, 1971). pp. 75-78, 80-81, and 33-36.

7. Ibid., p. 91.

8. Ibid., p. 92.

9. Robert R. Blake and Jane Srygley Mouton, "The Managerial Grid: Key Managerial Orientations for Obtaining Production Through People," (Reprint summary of key elements in Blake and Mouton's Managerial Grid, Gulf Publishing Company: Houston, Texas, 1964), p. 19.

10. Ibid., p. 13.

11. Ibid., p. 5.

12. Ibid., p. 7.

13. Ibid., p. 8.

14. Ibid., p. 9.

15. Ibid., p. 19.

16. Ibid., p. 21.

17. Op. cit., Sergiovanni and Starratt, p. 43-45.

18. For example, the alternative decision simulation, On Board, developed by Roger La Raus for the National School Board Association. It is used to train newly-elected school board members.

19. Blaine Worthen and James Sanders, Educational Evaluation: Theory and Practice (Worthington, Ohio: Charles Jones Publishing Co., 1973). p. 101-105.

20. Donald Cunningham, "Four Views of Formative Evaluation in Instructional Development," Viewpoint, July, 1972, p. 111.

21. The following sources provide a broad coverage of qualitative research, including content analysis of both oral and written statements by research subjects. Sections in the Lofland reference provide excellent practical guidelines.

    William J. Filstead, Qualitative Methodology, Chicago, Ill. Markham Publishing Co., 1970.

    John Lofland, Analyzing Social Settings, A Guide to Qualitative Observation and Analysis, Belmont, California: Wadsworth Publishing, Co., 1971.

22. This form of the question is an adoption of one found in: M. L. Silberman and J. S. Allender, "The Course Description: A Semi-Projective Technique Assessing Students' Reactions to College Classes, "Journal of Higher Education," June, 1974. (Vol. XLV, No. 6), p. 452.

23. Ibid. pp. 452-55. A research design that relied solely upon written feedback could profit from the approach described by:

    Dennis F. Brestinsky, "An Altered Direction and New Method for Evaluating Simulation Gaming." Paper Presented at the 1976 North American Simulation and Gaming Association Conference in Raleigh, North Carolina.

Appendix A

Debriefing Questions

1. After keeping a decision notebook for a week and playing the Principal Game, what insights did you gain about leadership style?

2. Do you think the concept of leadership style is a valid one?

3. Do you feel the game is an accurate reflection of your leadership style? Why or Why not?

4. A game such as this assumes that the choices given reflect the alternatives a principal might consider. This assumes an idealized situation. Were the alternatives given an accurate reflection of possibilities that crossed your mind when you read the incident? Which were not?

5. Were there particular incidents that you considered invalid? Why?

6. Were there aspects of the game format that detracted from your enjoyment or involvement in the game? What were they?

7. What strengths or weaknesses did you perceive in the scoring procedure?

8. What strengths or weaknesses did you perceive in the use of the Crisis Cards?

9. Did you feel there was sufficient competition within the game to sustain your interest? Is competition a necessary ingredient in a game of this type?

10. What, if anything, did you feel you've learned from this experience? What effects might a game such as this have on your future decision-making?

APPENDIX B

CATEGORIZATION OF INCIDENTS WITHIN THE PRINCIPAL GAME*

CURRICULAR	INTERPERSONAL	ORGANIZATIONAL
15/48 (31.25%)	11/48 (22.9%)	25/48 (52.1%)

POLICY (RULES)	GOALS (OBJECTIVES)	CONFLICT	ALLOCATION OF RESOURCES
19/48 (39.6%)	15/48 (31.25%)	11/48 (22.9%)	8/48 (16.7%)

PARENTS	STAFF	STUDENTS	CENTRAL OFFICE
6/48 (12.5%)	39/48 (81.2%)	12/48 (25%)	6/48 (12.5%)

TOTAL NUMBER OF INCIDENTS 48

In Back Row, the total of the numerators equals more than forty-eight (48). This is caused by overlap between cell categories in certain incidents.

APPENDIX C

CATEGORIZATION OF DECISIONS* MADE BY ELEMENTARY PRINCIPALS
In Walla Walla, Washington - Week 1 and Week 2.

WEEK 1

CURRICULAR	INTERPERSONAL	ORGANIZATIONAL	
19/81 (23.5%)	24/81 (29.6%)	38/81 (46.9%)	
POLICY(RULES)	GOALS(OBJECTIVES)	CONFLICT	ALLOCATION OF RESOURCES
25/81 (30.8%)	15/81 (18.5%)	19/81 (23.5%)	22/81 (27.2%)
PARENTS (COMMUNITY)	STAFF	STUDENTS	CENTRAL OFFICE
21/81 (25.9%)	34/81 (41.97%)	37/81 (45.7%)	8/81 (9.87%)

TOTAL NUMBER OF DECISIONS 81

WEEK 2

CURRICULAR	INTERPERSONAL	ORGANIZATIONAL	
11/74 (14.9%)	23/74 (31.1%)	40/74 (54.05%)	
POLICY(RULES)	GOALS(OBJECTIVES)	CONFLICT	ALLOCATION OF RESOURCES
30/74 (40.5%)	12/74 (16.2%)	16/74 (21.6%)	17/74 (22.97%)
PARENTS (COMMUNITY)	STAFF	STUDENTS	CENTRAL OFFICE
20/74 (27.02%)	35/74 (47.3%)	27/74 (36.5%)	4/74 (5.4%)

TOTAL NUMBER OF DECISIONS 74

* In some rows, the total of the numerators equals more than the denominator. This is caused by overlap between cell categories in certain decisions.

APPENDIX D

Changes in the format of Principal Game materials from the form in which they were originally published in The National Elementary Principal, November-December, 1975, in preparation for play with principals in second sub-sample in this study.

1. Elimination of Crisis Cards - because it was found this chance element could "distort" a player's score and therefore not give the player a fair reading of his leadership style in comparison with other players. With this change, the Principal Game would focus solely on situations over which the principal has influence.
2. The play is arranged so that each game player has a copy of each decision situation as it is being considered. This is accomplished by doing three things:
    a) Mounting the decision situations on color coded cards according to whether the situation involves teachers, students, parents, or the central office.
    b) Eliminating movement on the track and determining which incident is selected by the throw of a color coded die.
    c) Providing each player with an identified set of decision situation stacks, so that if, for instance, a player rolled "yellow", all players would pick the top numbered card from the "yellow" stack in front of them and all players would have the same incident.
    It should be noted that the cards could also be color-coded and labeled by curriculum, organizational, and interpersonal as well as by teachers, students, parents or the central office.

3. Each player reads his own incident, rather than the game director.
4. Scoring of the incident is public, rather than secret. After each incident, the player's marker is moved to the position on the grid which corresponds to the decision he has chosen. After each three incidents, players average their scores and proceed with play of the game.
5. Play proceeds for three rounds of three, at which point the game director explains the Managerial Grid and players play one more round. After this final round, debriefing begins.
6. As a result of the above changes, the "board" will consist solely of a representation of the 9x9 cell grid.

APPENDIX E

	EVALUATIVE TONE SCORE	IMPACT SCORE
PARTICIPANT 1	0	2
PARTICIPANT 2	4	3
PARTICIPANT 3	4	3
PARTICIPANT 4	4	3